

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (Canceled).

Claim 10 (Previously Presented): A braking device for an elevator comprising:

a movable plunger;

a braking mechanism which is connected to one end of said movable plunger and is configured to move through a movable range in an axial direction of the movable plunger from a braking state to a releasing state and move through the movable range in a reverse axial direction of the movable plunger from the releasing state to the braking state;

a first drive mechanism using a mechanical or magnetic force to press said movable plunger in the axial direction and hold said movable plunger in the releasing state when the movable plunger is in a first portion of the movable range, and to press said movable plunger in the reverse axial direction and hold said movable plunger in the braking state when the movable plunger is in a second portion of the movable range; and

a second drive mechanism using an electromagnetic force to drive said movable plunger from the first portion of the movable range to the second portion of the movable range for switching to the braking state and drive said movable plunger from the second portion of the movable range to the first portion of the movable range for switching to the releasing state.

Claim 11 (Previously Presented): The braking device for the elevator according to claim 10, wherein said first drive mechanism comprises a belleville spring whose center portion is fixed to said movable plunger.

Claim 12 (Previously Presented): The braking device for the elevator according to claim 10, wherein said first drive mechanism comprises a magnetic circuit including a movable iron core and a permanent magnet, for pressing and holding the movable iron core, fixed to said movable plunger, in the braking state or the releasing state.

Claim 13 (Previously Presented): The braking device for the elevator according to claim 10, wherein said second drive mechanism comprises a repulsion plate fixed to said movable plunger, and a braking coil and a releasing coil which are provided on a braking side and a releasing side, respectively, of the repulsion plate in the axial direction of said movable plunger, and generate an eddy current for obtaining a repulsion force between the repulsion plate and the braking coil and between the repulsion plate and the releasing coil.

Claim 14 (Previously Presented): The braking device for the elevator according to claim 11, wherein said second drive mechanism comprises a repulsion plate fixed to said movable plunger, and a braking coil and a releasing coil which are provided on a braking side and a releasing side, respectively, of the repulsion plate in the axial direction of said movable plunger, and generate an eddy current for obtaining a repulsion force between the repulsion plate and the braking coil and between the repulsion plate and the releasing coil.

Claim 15 (Previously Presented): The braking device for the elevator according to claim 12, wherein said second drive mechanism comprises a repulsion plate fixed to said movable plunger, and a braking coil and a releasing coil which are provided on a braking side and a releasing side, respectively, of the repulsion plate in the axial direction of said movable plunger, and generate an eddy current for obtaining a repulsion force between the repulsion plate and the braking coil and between the repulsion plate and the releasing coil.

Claim 16 (Previously Presented): The braking device for the elevator according to claim 12, wherein said second drive mechanism comprises a braking coil and a releasing coil which are provided on a braking side and a releasing side of the movable iron core in the axial direction of said movable plunger of the magnetic circuit, and respectively impart an attraction force to the movable iron core.

Claim 17 (Previously Presented): The braking device for the elevator according to claim 10, wherein said second drive mechanism comprises a magnetic circuit including a movable iron core, a braking coil, and a releasing coil, imparting an attraction force from the braking coil and the releasing coil respectively provided on a braking side and a releasing side of the movable iron core in the axial direction of the movable plunger to the movable iron core fixed to the movable plunger.

Claim 18 (Previously Presented): The braking device for the elevator according to claim 11, wherein said second drive mechanism comprises a magnetic circuit including a movable iron core, a braking coil, and a releasing coil, imparting an attraction force from the braking coil and the releasing coil respectively provided on a braking side and a releasing side of the movable iron core in the axial direction of the movable plunger to the movable iron core fixed to the movable plunger.

Claim 19 (Previously Presented): The braking device for the elevator according to claim 10, further comprising two spring structures for imparting forces in opposite directions from positions opposed to each other on a stroke of said movable plunger.

Claim 20 (Previously Presented): The braking device for the elevator according to claim 19, wherein said two spring structures further comprise a first spring structure imparting a force of pressing said movable plunger to a releasing side and including a spring whose extension range is limited and does not impart a force to said movable plunger while said movable plunger is in a predetermined range from the releasing side.

Claim 21 (Previously Presented): The braking device for the elevator according to claim 20, wherein said first spring structure is rotatably connected between said braking mechanism and said first drive mechanism and said second drive mechanism via a support shaft perpendicular to the axial direction of said movable plunger.

Claim 22 (Previously Presented): An elevator apparatus comprising:

a movable plunger;

a rail or a disk;

a braking mechanism which is connected to said movable plunger and is configured to move through a movable range in an axial direction of the movable plunger from a braking state to a releasing state of the rail or disk and move through the movable range in a reverse axial direction of the movable plunger from the releasing state to the braking state of the rail or disk;

a first drive device using a mechanical or magnetic force to press said movable plunger in the axial direction and hold said movable plunger in the releasing state when the movable plunger is in a first portion of the movable range, and to press said movable plunger in the reverse axial direction and hold said movable plunger in the braking state when the movable plunger is in a second portion of the movable range;

a second drive device using an electromagnetic force to drive said movable plunger from the first portion of the movable range to the second portion of the movable range for switching to the braking state and drive said movable plunger from the second portion of the movable range to the first portion of the movable range for switching to the releasing state;

an emergency battery for moving an elevator to a nearest floor in an event of a power failure; and

a power supply which is supplied with electric power from said emergency battery to generate the electromagnetic force.

Claim 23 (Previously Presented): The braking device according to Claim 10, wherein the second drive mechanism is configured to drive said movable plunger only through a distance shorter than the movable range when switching from the braking state to the releasing state and when switching from the releasing state to the braking state.

Claim 24 (Previously Presented): The apparatus according to Claim 22, wherein the second drive device is configured to drive said movable plunger only through a distance shorter than the movable range when switching from the braking state to the releasing state and when switching from the releasing state to the braking state.

Claim 25 (Currently Amended): A braking device for an elevator comprising:

a movable plunger;

a braking mechanism which is connected to one end of said movable plunger and is switched between a braking state and a releasing state due to a movement in an axial direction of said movable plunger;

a first drive mechanism using a mechanical or magnetic force, for reversing said movable plunger in a middle of a movable range in the axial direction for switching between the braking state and the releasing state to press and hold said movable plunger to a braking side or a releasing side, said first drive mechanism comprising a magnetic circuit including a movable iron core and a permanent magnet, for pressing and holding the movable iron core, fixed to said movable plunger, to the ~~driving~~ braking side or the releasing side; and

a second drive mechanism using an electromagnetic force, for driving said movable plunger to a reversion position in the middle of the movable range from the braking side or the releasing side against a pressing force of said first drive mechanism in order to switch between the braking state and the release state.